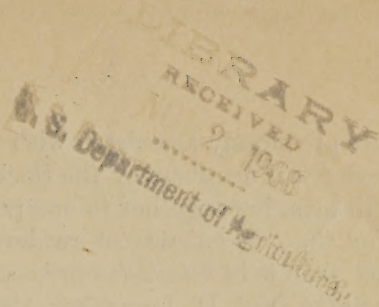


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United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,

Seed and Plant Introduction and Distribution,

WASHINGTON, D. C.

A VARIETY COLLECTION OF GLADIOLUS.

It occurred to the writer that a collection of representative varieties of the different classes of gladioli might be of interest to members of the Society of American Florists on the occasion of the annual convention in Washington.

With this end in view several prominent gladiolus growers were asked to select varieties in each section which in their opinion were the most representative and the best of that section. Corms were ordered in accordance with the lists furnished, and in the planting the varieties from each firm have been grouped together by sections.

It appeared that it would also be instructive to show, so far as possible, the species entering into the blood of the several classes. It was only practicable, however, to obtain such as Dr. William Van Fleet, of Little Silver, N. J., had, and he very kindly furnished all the species represented.

In the planting arrangement an effort has been made to connect the groups allied by blood, but success in this has been naturally very incomplete. In the course of some very pleasant and to the writer instructive correspondence with Doctor Van Fleet, of the Rural New Yorker, Mr. H. H. Groff, of Simcoe, Canada, and Herr Max Leichtlin, of Baden-Baden, the views of these leaders in horticulture concerning certain points regarding the origin of the sections and the principles of hybridizing the gladiolus were secured. Some of these letters are reproduced herewith, as well as a statement prepared on request by Doctor Van Fleet, and a portion of Mr. Groff's address at the meeting of the American Breeders' Association held at Champaign, Ill., in February, 1905. The views of these two Americans whose

names are closely associated with the gladiolus, though doubtless well known to all members of the Society of American Florists, seem well worth bringing together in one publication.

For the convenience of readers a genealogical table showing the blood that is in *Gladiolus princeps* has been reproduced from *Flora and Sylva*, Vol. II, December, 1904.

The descriptions of varieties here given have been copied from the catalogues of the firms from whom the particular variety was received, unless otherwise noted; those of the species are as given in the *Cyclopedia of American Horticulture*. In the descriptive list, varieties are in several cases duplicated, but it was thought better to duplicate the descriptions than to change the system adopted. Doubtless some varieties will be found to be entered under different names.

One word should be said in regard to Kelway's hybrids. The Large-Flowered strain containing *gandavensis* blood was placed with *gandavensis* varieties, and the Large-Spotted or Butterfly hybrids were placed with *lemoinei*, since it appeared that they must be closely related to those large-spotted varieties. A letter from Kelway & Sons answering inquiries in regard to these classes is reproduced on another page.

In conclusion the writer wishes to emphasize the fact that the varieties included in this collection were selected *by the respective growers* and consequently represent their views and not those of the Department of Agriculture. The whole value of the present display is thought to lie in that fact. The effort has been solely to bring together for the convenience of the Society of American Florists selected varieties from different growers and to group them in the commercial classes, showing in some cases the species from which these classes originated.

A. J. PIETERS,
Botanist in Charge.

Approved:

B. T. GALLOWAY,
Chief of Bureau.

WASHINGTON, D. C., July 12, 1905.

STATEMENTS OF GLADIOLUS GROWERS.

The following letter and memoranda were prepared by Dr. William Van Fleet in compliance with a request to furnish a statement of his views as to the best methods of obtaining results in crossing the gladiolus:

Mr. A. J. PIETERS,

Washington, D. C.

DEAR SIR: I inclose brief notes concerning my idea of breeding the gladiolus for flower improvement, as suggested in your recent favor. Opinions on such matters always will vary. Mr. Groff has certainly achieved success in breeding almost exclusively from garden varieties.

Very truly yours,

WM. VAN FLEET.

LITTLE SILVER, N. J., April 29, 1905.

[Inclosure.]

Such thorough work in breeding the gladiolus for improvement in flowers has been done by a multitude of growers in various countries for the last fifty years that further progress toward perfection, from the fancier's standpoint, is likely to be slow. Considerable gains in refinement of form, spike, and color are to be expected in the future, as in the past, from the judicious intercrossing of the various popular hybrid races now in commerce and to a limited extent from the selection of naturally pollenized seedlings of mixed ancestry, but new and striking features will only come through the hybridization of vigorous and distinct wild species, or strongly typical varieties of such species, with the very best garden varieties.

Each section or race of the modern garden gladiolus, founded on a botanical type or species, has its merits and defects. Thus the *gandavensis* varieties developed from species related to *gladiolus psittacinus* have, generally, soft, rich coloring and fine, erect spikes of two-ranked blooms, many of which are open at the same time; but the race, as a whole, lacks vigor, and the bloom arrangement is at times too formal.

The *lemoinei* type, based on *G. purpureo-auratus*, is extremely brilliant and striking. The spikes are generally very graceful, but the bloom retains too much of the hooded form of the species and the stems are occasionally too dense in texture to permit the blooms to open well after cutting.

The *childsii* group, due to the influence of *G. saundersii*, is strong, vigorous in plant, and rich and varied in coloring. The blooms in this race attain the largest average size and are of excellent form, but not always of the best texture. Taken altogether the *childsii* race is probably the finest in existence.

The *nanceianus* type, produced by interbreeding *lemoinei* varieties with *saundersii* and *childsii* varieties, has extreme richness of color and markings, together with large size and good form of the blooms. The defects are a general lack of vigor and frequently too close texture of the stems, making the varieties inferior for cutting.

Gladiolus hybridus princeps is the offspring of *G. cruentus* pollenized with a *childsii* variety. In size, perfection of form, fine coloring of flower, and vigor of growth, it

is considered to be the finest gladiolus yet produced and bids fair to develop a race of deep self-colored varieties far in advance of anything yet in commerce.

In breeding this magnificent summer-flowering plant we must avail ourselves of the best results of the endless labors of our predecessors, but at the same time promptly use any distinct features in species developed by nature during unknown centuries of local adaptation.

The following letter from Doctor Van Fleet regarding gladiolus hybrids is self-explanatory:

Mr. A. J. PIETERS,

Washington, D. C.

DEAR SIR: Your inquiry of June 15 is at hand. The gladioli sent you as *Hybridus dracocephalus* by Lemoine are evidently hybrids between that species and the varieties of the *lemoinei* type. I have grown a number of the named varieties you mention and on the whole found them a very indifferent lot. I have raised literally thousands of hybrids of the species of *dracocephalus*, and I have saved from them only four or five that I consider worth perpetuating. The best of this class was sent me by Herr Max Leichtlin, of Baden-Baden, Germany, under the name of *Hybridus aspersus*, and is really a beautiful thing, having large and widely expanded blooms with beautiful markings and tracings of red and yellow, somewhat similar to the species.

Yours very truly,

W. VAN FLEET.

LITTLE SILVER, N. J., June 20, 1905.

The following is an extract from a paper entitled "Plant Improvement by Hybridization," read by Mr. H. H. Groff, at a meeting of the American Breeders' Association, at Champaign, Ill., in February, 1905:

The practical and general application of my system may be outlined as follows: In order to secure the benefits of existing material, make crosses between every available type regardless of apparent objectionable characteristics. Select sires from these and use on every wild species obtainable, on special and general lines—crossing and recrossing until desirable types are produced. Then bring the selected offspring of all wild species together in intercrossing on special lines, as each wild species will prove more useful than another in some individual feature valued by us, for, as already indicated by me, specialization becomes imperative.

The result of the foregoing will be the creation of new domestic specific types, valuable as sires for use in revitalizing crosses on existing varieties of merit, and the production of new forms and types of unexpected quality and value.

Selection of varieties and raising naturally fertilized seedlings from such selections is only a short step toward an infinitesimal fraction of the possible satisfaction open to all plant breeders, who must be considered as advancing, more or less slowly, toward the ever rising—but never to be fully risen—sun of scientific horticultural achievement.

The first step should be hybridization or cross-breeding between such selected varieties, irrespective of color or race, to the limit of variation and stability; with a contemporaneous systematic effort to develop domestic specific types from every obtainable wild species by using pollen from these advanced selections. These

efforts should be conducted on many lines, with the hope of rendering the possibilities of each species controllable for the definite use planned by the operator.

For example: If the desire is to produce a white section, every effort should be made to originate such colors and shades from every known wild species without regard to their colors. When fixed types of a desirable character have been so produced, these should be used as sires on selections from existing varieties as mothers for the creation of new and valuable economic types.

While the foregoing operation is progressing for the production of commercial types, crosses should be made between all of these sires on individuals prepared for use as mothers by removal of the anthers before ripening of the pollen, with the object of creating new and distinct domestic specific types to be used as the progenitors of new forms and races, as well as for the revitalization of strains possessing valuable characteristics worthy of perpetuation and elaboration.

An extract from a letter from Doctor Van Fleet containing a synopsis of summer-flowering gladioli is as follows:

Summer-flowering garden gladioli.

Gladiolus gandavensis=(starting point) *G. psittacinus* \times *G. cardinalis* or *G. oppositiflorus*.

The Vilmorin and Souchet strains are practically all *gandavensis*.

Gladiolus lemoinei=*G. gandavensis* \times *G. purpureo-auratus* or *G. papilio*. Lemoine's hybrids come from *purpureo-auratus* and blue Lemoines from *papilio*.

Gladiolus childsii=*G. gandavensis* \times *G. saundersii* (finest of all) strains.

Gladiolus nanceianus=*G. lemoinei* \times *G. saundersii*. Large and beautiful, but not robust.

Gladiolus turicensis.—Same as *childsii*, but inferior.

Gladiolus princeps=*G. childsii* \times *G. cruentus*. Most attractive variety.

Gladiolus hybridus aspersus=*G. dracocephalus* \times *G. childsii*. Very distinct mot-tlings.

The following is a letter from Mr. H. H. Groff on the naming system of gladioli:

Mr. A. J. PIETERS,

Washington, D. C.

DEAR SIR: In reply to your letter of the 24th instant, from the amateur standpoint of value, beauty, and quality, the naming system gives no corresponding return. If the varieties named were distinct and of merit, in proportion to the cost, there would be little objection, but where slight variations in color or markings are made the excuse for this system, and where thousands of equal and greater beauty and value can be secured at less expense, there is nothing in it for the lover of things beautiful.

To turn to the side of the collector of "pedigree" stock; when he finds hybrids of *papilio major* offered in a section that is described distinctly as not containing such blood, of what use is sectional and pedigreed classification—I am only stating facts as I have proved them to exist in commercial collections. My objection to the system is largely from the aspect of adaptability, a quality that is lost to the amateur by any system of restricted production or dissemination.

The question of distinguishing marks was more important years ago, when, for instance, the hybrids of *purpureo-auratus* were confined to the *lemoinei* section by the originator. Now, however, in the blend with the species *saundersii*, types of the former section appear as I stated in my last, Mr. Lemoine often being in doubt as to which section he should put them. In other words, his hybrids of *purpureo-auratus* now often contain *saundersii* blood—this is contrary to the listed description of their pedigree.

These experiences of the old-system breeders now prove the correctness of my contentions of years ago, as stated.

The *childsii* section was originated years ago from early and comparatively crude hybrids of *gandavensis* and the species *saundersii*. This is why they are inferior to the *nanceianus* section of Lemoine, which is bred from parents of better coloring, with the same infusion from the species.

I may not have made my ideas clear to you, but if not, keep on writing, as you can not tire me out on the question.

Yours truly,

H. H. GROFF.

SIMCOE, ONTARIO, January 26, 1905.

A letter from Kelway & Sons, regarding the origin of the Kelway hybrids, is as follows:

A. J. PIETERS, Esq.,

Washington, D. C.

SIR: We are in receipt of your favor of the 15th instant, and in reply beg to say in answer to your questions:

1. With regard to the July Large-Flowering, this is a separate and distinct section.
2. Regarding *Gladiolus kelwayi*, this is our own secret, and we are sorry we can not give the information asked.
3. Kelway's Large-Flowering gladiolus. The foundation is *gandavensis*, produced by hybridizing same with very broad-petaled species.
4. Kelway's Large-Spotted or Butterfly hybrids. These are not, as called by other dealers, *lemoinei*. This strain is from two distinct species of our own hybridizing.

We are sorry we can not give you any fuller explanation, and we trust the bulbs may prove in every way satisfactory.

Awaiting your further kind commands, we are, sir, yours faithfully,

KELWAY & SONS.

THE ROYAL SEED AND PLANT ESTABLISHMENT,

LANGPORT, SOMERSET, April 26, 1905.

A letter from Haage & Schmidt with reference to the origin of the White Lady gladiolus (*G. gandavensis*) follows:

A. J. PIETERS, Esq.,

United States Department of Agriculture,

Washington, D. C.

DEAR SIR: We have received your favor of the 12th instant, asking for the history, the origin, and the description of the *Gladiolus gandavensis*, "White Lady," which was introduced by us in 1896. We gained this really pure white gladiolus in our own cultures by crossing the best so-called white varieties. Having compared our "White Lady" with all the newest white varieties known we are positive that this novelty is the very best white one. The flowers are large, of finest substance, and

of the purest white imaginable; the lower petals are slightly tinged with pale yellow. This pale yellow is so delicate and so clear that it does not impair the white of the flowers in the least; on the contrary, it enhances the white color. The buds are light yellow before opening. The plants are of a remarkably strong growth and will generally produce several flower spikes. Height, $2\frac{1}{2}$ to 3 feet when in full bloom.

The White Lady gladiolus excited the attention of all visitors to our establishment and was pronounced by everyone as the finest white ever grown. It received a first-class certificate of the Horticultural Society for the Kingdom of Prussia at Berlin.

We remain, dear sir, yours very truly,

HAAGE & SCHMIDT.

ERFURT, GERMANY, January 26, 1905.

[Inclosure.]

HISTORY AND ORIGIN OF GLADIOLUS GANDAVENSIS, "WHITE LADY."

During the years of 1880 to 1884 we cultivated, among other white or so-called white varieties, two varieties of gladioli which were the purest white in color. One was named *Lactea* and was of French origin (if we recollect right, it was introduced by Loise-Chauviere, of Paris). It was a very weak grower and hardly ever produced offsets. The other rather strong-growing variety (but with poorly shaped flowers, the lower petals being very small) was called *Blanchard*, and was of Belgian or German origin. In order to improve the flower of the latter and the growth of the former, we took the pollen of *Lactea* and hybridized *Blanchard*. The result, among other good, also of poorer, varieties, was our "White Lady," the seedlings of which flowered in 1886 for the first time. In 1887 we found another one of the same sowing and of exactly the same growth and color, so we had two flowering bulbs in 1887, and a few offsets. By careful propagation and growing we were in a position to offer it in 1896.

Messrs. Haage & Schmidt sent an interesting article by Philip de Vilmorin, from the *Revue Horticole*, copied from *Flora and Sylva*, Vol. II, December, 1904, as follows:

HYBRID GLADIOLI, NEW AND OLD.

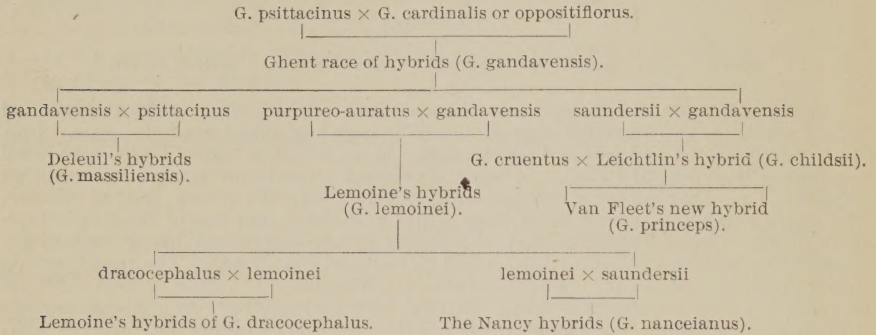
Gladiolus princeps is the latest gain among the many hybrids of this gorgeous family. Four distinct species have united in its production, as may be seen by reference to the explanatory table of its descent, which shows at the same time the origin of the other great strains of hybrid gladioli, to which is due the present place of these flowers in gardens.

Though it is rare to find records of crossing so complete as with the gladioli, there is at the outset a doubt as to the parentage of the Ghent race of hybrids (*Gladiolus gandavensis*), from which all the rest have sprung, and which no less an authority than Van Houtte declared to come from *G. psittacinus* and *G. cardinalis*. In opposition to this it is contended that not only have later attempts completely failed to reproduce this result, but that by crossing *G. psittacinus* with *oppositiflorus* plants identical with *gandavensis* have been obtained. This point, then, must be left for fuller knowledge to decide, and it explains why in our table *G. gandavensis* appears as coming from *G. psittacinus* crossed either with *cardinalis* or *oppositiflorus*. Again, some writers have inadvertently declared *Gladiolus childsii* to be issue of *nanceianus* and *gandavensis*, but upon the authority of M. Max Leichtlin, the raiser, it would appear that *G. saundersii* and *G. gandavensis* are the true parents, thus linking *G. childsii* closely to *saundersii*, a point of some importance in settling the origin of *G. princeps*. It is also interesting to gather that M. Krelage regards *G. childsii* of Leichtlin as identical with *G. turicensis* of Fröbel, and upon inquiry they are shown to be of the same but in inverse parentage, the seed and pollen parent being transposed. But, in any case, no doubt exists that from *G. childsii* the new plant has come.

To America, in the person of Doctor Van Fleet, of Little Silver, N. J., this new gain is due. Its other parent, *G. cruentus*, was first discovered many years ago upon the slopes of the Drakenburg, in Natal, but as of difficult culture it has remained

rare in Europe, being perhaps nowhere so well grown as with M. Leichtlin, who sent plants to America. There they thrived with Doctor Van Fleet, who succeeded in crossing this species with *G. childsi*. The resulting hybrid, *Gladiolus princeps*, exceeded all expectation. Its flowers of crimson scarlet are rich and intense in color, widely expanding, of great size, and of fine form. The brightness of the flower is relieved by touches of white, or frequently by a white stripe across the center of the lower petals, which are very full and rounded. The new plant flowers late in August and September, when other kinds are on the wane. This fact alone will give the newcomer an added value.

Though expanding in slow succession and never having more than three or four open at the same time, the size and lasting quality of its flowers do much to atone for this fact. To the present, raisers have failed to induce much variation in color from the scarlet of the first *G. princeps*, but it is not too much to hope that colors may yet be gained as varied as in the finest strains of hybrid gladioli.



The following descriptions of Groff's hybrids were furnished by Mr. Arthur Cowee, of Berlin, N. Y., from whom they were purchased:

Gold Medal Collection.—This collection is prepared from the cream of the world's named introductions in *gandavensis*, *lemoinei*, and *nanceianus* after discarding over six hundred named varieties. It also contains choice new tested seedlings of equal or greater merit.

Section 1 (14073).—Composed of pink, red, scarlet, crimson, and cerise shades of the highest quality and most intense colors, with flowers of the largest size and greatest perfection.

Section 2 (14074).—Contains white, light, and yellow shades of the purest colors obtainable, relieved in many varieties by stains and blotches of most intense and decided contrast.

Section 3 (14075).—Contains new blues, including tints of lilac, lavender, heliotrope, and clematis shades.

Silver Trophy Strain.—This strain is composed entirely of choice new-tested seedlings of exceptional beauty, vigor, and vitality, with flowers of the largest size in their respective types, and spike of correct form.

Section 1 (14076).—Contains newest reds, scarlets, and crimsons.

Section 2 (14077).—Contains white, light, and yellow shades, in many combinations relieved by stains and blotches of rich colors in most pleasing contrast.

Section 3 (14078).—Contains rare blues in clematis, heliotrope, lavender, and lilac shades. Largely hybrids of *papilio major*.

Groff's Hybrid Seedlings (14079).—Contains the original introduction of that hybridizer, which has been further advanced in quality by the addition of many new creations of exceptional merit.

Meadowville Mixture (14080).—Is prepared from all types and varieties worthy of retention and is intended to supply the demand for the best possible mixture obtainable at a reasonable price. It contains all shades from pure white to dark crimson.

Buffalo Mixture (14081).—This strain is composed entirely of selected named varieties originated by Mr. Luther Burbank; also Mr. Grey's Ingleside hybrids and named *childsi*.

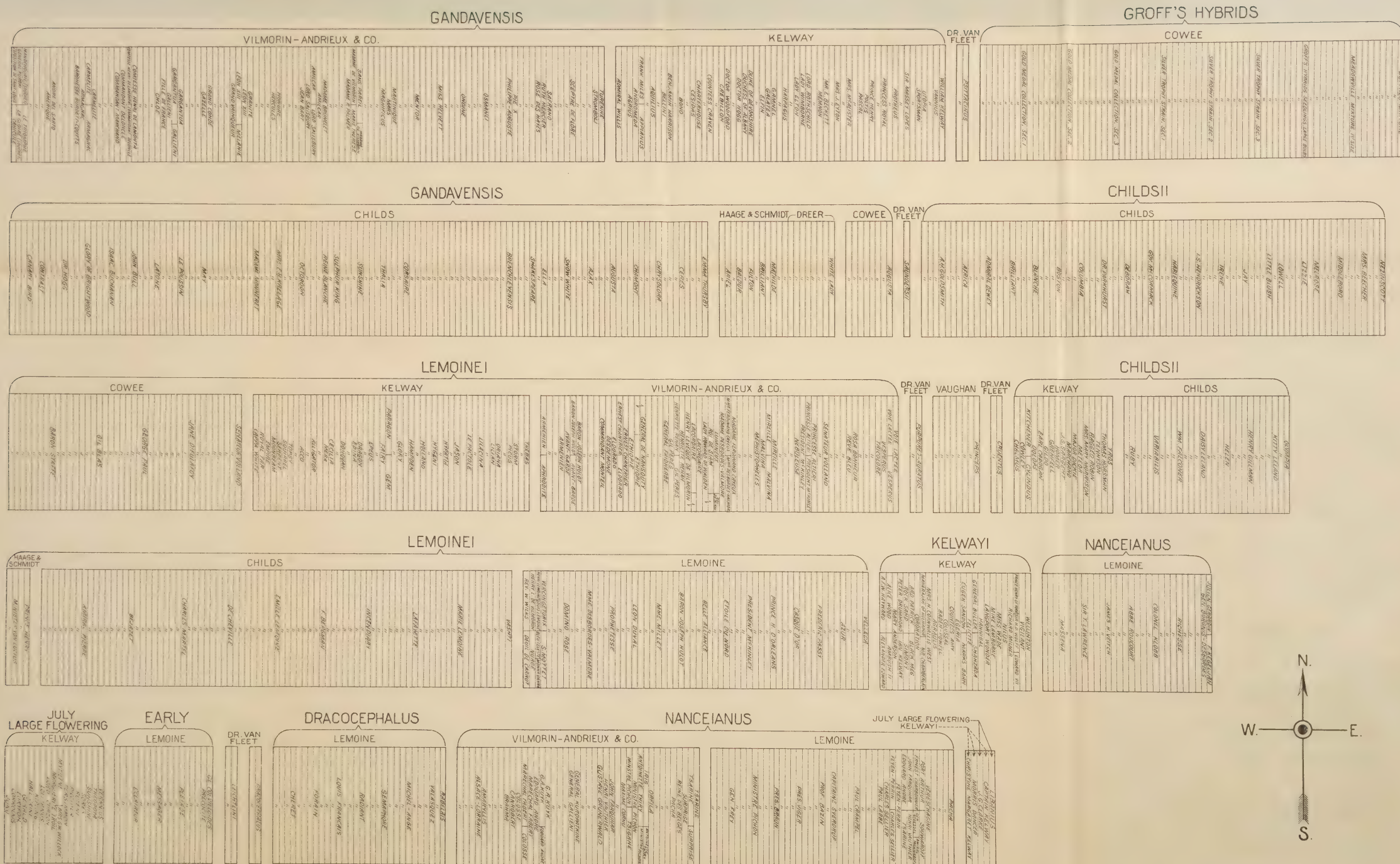


DIAGRAM OF THE GLADIOLUS GARDEN IN THE GROUNDS OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, SHOWING THE LOCATION OF THE VARIETIES.

CATALOGUE OF VARIETIES.

The following is a catalogue, arranged by sections, of the varieties of gladioli in the collection of the Department of Agriculture, accompanied in each case by a brief description of the variety as given in the respective catalogues of the seedsmen from whom the collections were purchased:

Gladiolus psittacinus.

Furnished by Dr. William Van Fleet, of Little Silver, N. J. (14003.)

Stem 3 feet high, stout; leaves about 4, rather rigid. Flowers many and large, with curved tube nearly or quite 2 inches long, rich yellow but thickly grained and overlaid with red (particularly about the margins of the segments). Upper segments obovate and hooded; the lower much smaller and reflexing.

Gladiolus gandavensis (psittacinus \times cardinalis or oppositiflorus).

(1) Varieties purchased from Kelway & Sons, Langport, England. Catalogued as Kelway's Large Flowering. (See letter of Kelway & Sons, p. 6).

Admiral Willis. Glowing crimson. (14371.)

Aagrius. Salmon pink, flaked at the edges with vermilion, with a creamy yellow eye; a grand flower of great substance. (14372.)

Andromeda. Yellow, tinted rose. (14373.)

Appianus. White, with a large rose blotch on the lower petal. (14374.)

Aquilius. Rosy crimson, with dark streaks. (14375.)

Bellini. White, with a violet stripe on the lower division. (14376.)

Benjamin Harrison. Orange cerise, large. (14377.)

Bono. Scarlet-crimson, lower petals tinged rosy purple. (14378.)

Cesidas. Purple. (14379.)

Charterhouse. Rose, flaked carmine, light center. (14380.)

Countess Craven. Rose, flaked carmine, yellow center. (14381.)

Crebillon. Rosy lilac. (14381½.)

Doctor Woodford. Blush, light center. (14382.)

Doctor Hogg. Mauve, suffused with rose, center pure white. (14383.)

Duchess of Albany. White, yellow center. (14384.)

Duke of Devonshire. Orange scarlet, with white throat. (14385.)

Elfin. Pale yellow, flaked rose. (14386.)

Frank Miles. Blush, flaked carmine. (14387.)

Galatea. Blush, tinted rose. (14388.)

Gamel. Salmon, yellow center. (14389.)

Harpagus. Crimson. (14390.)

Lady Elton. White, tinted with rose. (14391.)

Lady Wimborne. White, veined rose. (14392.)

Lord Rothschild. Scarlet crimson, shaded with purple. (14393.)

Memnon. Scarlet crimson. (14394.)

Mr. E. Beckett. Scarlet, white lines. (14395.)

Gladiolus gandavensis—Continued.

(1) Varieties purchased from Kelway & Sons—Continued.

- Mrs. J. Eyton.** White, shaded with lilac. (14396.)
Mrs. McAlister. Primrose, with a carmine stripe. (14397.)
Pascal. Rose, flaked, white center. (14398.)
Poltis. White, tinged rosy lilac. (14399.)
Prince Henry. Purple, with white throat. (14400.)
Princess Royal. Blush, mottled rose. (14401.)
Protheus. Rose, white center. (14402.)
Sir Massey Lopes. Orange rose, with a light center. (14403.)
Sportsman. Red, white center. (14404.)
Utopia. Rosy lake, white center. (14405.)
Vannius. Cerise, yellow center. (14406.)
William Kelway. Scarlet crimson, blotched white. (14407.)

(2) Varieties purchased from Vilmorin-Andrieux & Co., Paris, France

- Amérique.** Compact, well-shaped spike, with large, well-expanded flowers, cinnabar red, striped red brown. (14161.)
Amilcar. Plant of a half-dwarf habit. Fine spike of very large, well-opened flowers of a soft, fleshy color, glazed with golden yellow and slightly striped with rose. (14162.)
André Del Sarto. Handsome spike, very large, well-expanded flowers of a fine cherry-red color. Large, creamy-white blotch on two sepals. Very effective variety. (14163.)
Armagnac. Very handsome spike with large flowers of intensely deep scarlet, banded white and slightly striped with velvety brown. Splendid. (14164.)
Baroness Burdett-Coutts. Delicate lilac tinged with rose, flamed rosy purple. Spike very long, flowers very large. (14165.)
Canicule (Souchet). Well-furnished spike of very large, well-opened flowers, clear scarlet red; the lower petals bear a large creamy-white blotch, a stripe of the same color in the center of the upper petals. (14156.)
Carmélite. Large, salmon-rose flowers profusely shaded with slate color, giving a light-brown effect; very soft and pretty color. (14166.)
Chloé. Beautiful spike; large, well-rounded flowers of a bright cherry red, with a large, distinct, pure-white blotch. (14167.)
Commandant Deloncle. Very large, well-rounded flowers, slaty carmine red, dark violet blotch with a white band. (14168.)
Commandant Marchand. Compact spike, well-expanded and perfectly shaped flowers of a velvety, dark-ruby color. (14169.)
Comtesse Henri de Lamonta. Handsome spike, well furnished with extra large, well-opened flowers, white, slightly suffused with lilac, striped and blotched amaranth red. (14170.)
Exposition de Saint-Louis (Souchet). Well-furnished spike of well-opened flowers; petals spread and recurved, deep cherry red on the edges of the petals, and of a much paler shade in the center. White stripes on all the petals. (14157.)
Fille de France. Admirable, compact spike with very large flowers of a pure white, suffused with a few rosy bands, throat amaranth; stripes of the same color on the lower petals, slightly glazed with straw color. (14171.)
Gallieni. Compact spike of immense flowers (over 4 inches), intense cinnabar red. Very striking plant. (14172.)

Gladiolus gandavensis—Continued.**(2) Varieties purchased from Vilmorin-Andrieux & Co.—Continued.**

Gargantua. Splendid spike of very large and well-expanded flowers of a rosy carmine, profusely striped with violet red in the center. First rate. (14173.)

Gazelle. Long, compact spike of well-opened flowers, fresh rosy lilac, slightly flamed with amaranth red. (14174.)

Général Kuroki (Souchet). Dense, well-shaped spike; flowers creamy white, strongly suffused and striped with carmine rosy or carmine red. (14158.)

Grand-Condé. Compact spike; very large, well-opened flowers of a handsome, bright salmony rose, striped with violet red; white blotch. (14175.)

Grand Vainqueur. Very tall spike with large, rose-colored flowers, profusely flushed with carmine; handsome variety. (14176.)

Granité. Large, salmon-rose colored flowers, finely striped and dotted of a deeper shade, large, white blotch, spike very long, and well set. (14177.)

Hercules. Very large flowers, produced amply on a fine spike, brilliant, velvety, scarlet flamed, and streaked with orange red, violet blotch on mauve ground. (14178.)

Honoré. Long, compact spike of very large flowers, very soft, fleshy-white color, suffused with rosy carmine, and lemon-colored blotch. Splendid variety. (14179.)

Jean-Bart. Handsome, large spike; large, well-opened, rounded flowers, of a splendid bright crimson red. Ivory-white blotch. (14180.)

La Gloire (Souchet). Very large, compact spike; enormous, well-expanded flowers, salmony scarlet suffused with a darker shade; small blotch, creamy yellow, ending with a band of the same color on the lower petals. (14159.)

Léon XIII. Large, well-rounded flowers, bright cherry red, with a small, white blotch. (14181.)

Le Triomphe. Splendid spike; very large flowers (from 4 to 5 inches), well expanded, rosy lilac, striped with carmine red; white blotch. Variety of great merit. (14182.)

Lord Salisbury. Very long spike, well furnished with large flowers of a dark carmine-red color; white blotch and white central band on each sepal. (14183.)

Madame Brunelet. Long spike; large flowers, pale rosy lilac, striped with carmine red; creamy-white blotch, central band crimson red. First-rate variety. (14184.)

Madame P. Palmer. Compact spike; very large flowers of rose color suffused with carmine, blotch cream colored, edged cherry red. (14185.)

Madame de Vilmorin. Very large and well-opened flowers of pale fleshy rose, slightly striped with bright rosy carmine. Quite fresh and distinct shade of color. (14186.)

Magnificus. Very large flowers, round and open, cinnabar red, fine, white blotch, edged violet; extra. (14187.)

Mandchourie (Souchet). Very long, well-shaped spike, bearing 15 to 20 middle-sized flowers, opened almost all at the same time, rosy lilac, slightly suffused with white in the throat; white stripes on the upper petals. (14160.)

Marie-Thérèse. Splendid spike of very large flowers; almost pure white, with a few rosy stripes on a straw-colored blotch. (14188.)

Mars. Dense spike; large flowers of a bright orange-red color, profusely striped with blood red; white blotch. Dazzling color. (14189.)

Gladiolus gandavensis—Continued.

(2) Varieties purchased from Vilmorin-Andrieux & Co.—Continued.

- Martinique.** Splendid spike; very large, well-rounded flowers of a fine, dark-violet red; pale-yellow blotch. Very distinct shade of color. (14190.)
- Mélanie.** Large, well-opened flowers, somewhat fringed; fleshy white, slightly blotched with pale rose color; the lower petal is ocher yellow, with an amaranth-red blotch. (14191.)
- Mentor.** Handsome spike with large, well-opened flowers of a delicate slaty-rose color; blood-red blotch on a white ground. (14192.)
- Miss Helyett.** Very large and handsome flowers of a rosy salmon self, very fresh and brilliant, small carmine blotch. (14193.)
- Ondine.** White, tinged with lilac, small, dark-violet blotch, slightly flamed with lilac carmine on the edges. (14194.)
- Osmanli.** Tall, well-furnished spike of dark orange-colored flowers, profusely streaked and spotted pure white; decided contrast of colors. (14195.)
- Philippe-Auguste.** Very large, well-expanded flowers of intense salmony-rose color, largely striped with deep, purple-white blotch. (14196.)
- Pie X.** Very large flowers of a bright salmony rose; the two lower petals are almost pure white, with a fine, cherry-red blotch. (14197.)
- Rose des haies.** Pretty spike of very fresh-colored flowers, center pure white and yellow, edges of a bright, very delicate color. (14198.)
- Ruth Mercier.** Well-shaped spike; large, well-expanded flowers, white, conspicuously streaked with carmine red, especially on the edge of the sepals. Very soft color. (14199.)
- Safrano.** Very elongated, well-shaped spike; large, well-expanded, slightly fringed flowers, of a very delicate nankeen yellow; center currant-red, and stripes of the same color. A very handsome variety. (14200.)
- Sans pareil.** Perfect spike; very large flowers (from 4 to 5 inches) of a very bright orange-rose, slightly striped with vermilion; large white blotch. (14201.)
- Sceptre de Flore.** Large flowers with white throat, brightening to the richest rose color at the circumference of the petals, spotted carmine; lower petals blotched carmine and a pure-white band. (14202.)
- Stromboli.** Large, well-rounded and expanded flowers of the deepest scarlet; large, pure-white band. (14203.)
- Turenne.** Admirable spike. Immense flowers, well opened, pale carmine red, with a pure-white blotch. Very effective variety. (14204.)

(3) Varieties purchased from John Lewis Childs, Floral Park, N. Y.

- Ajax.** Beautifully striped. (14045.)
- Augusta.** Lovely pure white, with blue anthers. (14046.)
- Brenchleyensis.** Vermilion-scarlet; fine old variety. (14042.)
- Canary Bird.** Finest yellow. (14047.)
- Chamont.** Lilac, shaded with purple. (14048.)
- Ceres.** Pure white, spotted with purplish rose. (14050.)
- Chrysolora.** Golden yellow, pure and distinct. The finest yellow variety. (14049.)
- Contrast.** Flowers of great substance and a beautiful compact spike of perfect form. Color, intense scarlet, with a large, distinct, pure-white center, which is neither tinted nor mottled. One of the most striking and beautiful gladioli ever introduced. (14051.)
- Corsaire.** Compact spike, large flowers of a very intense dark and velvety scarlet and tinged with brown at the edge. (14043.)

Gladiolus gandavensis—Continued.

(3) Varieties purchased from John Lewis Childs—Continued.

- Dr. Hogg.** Mauve, suffused with rose; pure-white center. (14052.)
Ella. Blush-pink; flakes slaty blue. Very odd and pretty. (14054.)
Emma Thursby. White ground; carmine stripes through petals; blotch on the lower division. (14053.)
Glory of Brightwood. Scarlet, with lemon throat. (14055.)
Isaac Buchanan. Very fine yellow. (14056.)
John Bull. White, slightly tinted with sulphur. (14057.)
Latone. Tall and very compact spike; fine flowers of a delicate rose, with creamy white blotch and stripes. (14058.)
Le Poussin. Light red, white blotch. (14059.)
Madame Monneret. Delicate rose. (14061.)
May. A lovely pure-white flower, finely flaked bright rosy crimson; superb spike. (14060.)
Mrs. E. H. Krelage. Fiery red; white blotch, with carmine and white veins. (14035.)
Octoroon. A beautiful salmon-pink; very distinct. (14036.)
Reine Blanche. Pure white; dark-carmine blotch. (14037.)
Shakespeare. White, very slightly suffused with carmine-rose; large rosy blotch. (14039.)
Snow White. All that need be said about this grand novelty is that it is absolutely pure snow-white, the only pure-white gladiolus in existence. It also has large, well-opened flowers and an enormous spike of the most beautiful shape. (14044.)
Sulphur King. Beautiful, clear, sulphur-yellow; finest and clearest of yellow sorts. (14038.)
Sunshine. Tall spike with twenty or more flowers. Very fine yellow. (14040.)
Thalia. White; flamed and streaked with carmine. (14041.)

(4) Varieties purchased from Haage & Schmidt, Erfurt, Germany.

- Ariel.** Scarlet, with violet streak on light ground. (14260.)
Baldur. Vermilion scarlet, with large white blotches. (14261.)
Brilliant. Light orange, with violet-lilac streak on white ground. (14263.)
Fulton. Salmon orange, with violet-carmine blotch and white middle streaks. (14262.)
Mathilde. Pale yellow, slightly tinged with reddish, streaked carmine. (14264.)
White Lady. Pure white, the lower petals slightly tinged with pale yellow. (14265.)
White Lady. [Another sample purchased from Henry A. Dreer, Philadelphia, Pa.] (12368.)

(5) Variety purchased from Arthur Cowee, Berlin, N. Y.

- Augusta.** Lovely pure white, with blue anthers. Strong, straight spike, often having two and three branches. (14082.)

Gladiolus saundersii.

Furnished by Dr. William Van Fleet, Little Silver, N. J. (14004.)

About 2 feet high; leaves 4-6, strongly ribbed and stiff; flowers 6-8, large, bright scarlet, the tube 1 to 1½ inches long and curved; three upper segments long spatulate, uniform scarlet, connivent (2 inches long), the three lower ones smaller, white blotched and spotted.

Gladiolus childsii (gandavensis × saundersii).

(1) Varieties purchased from John Lewis Childs, Floral Park, N. Y.

Admiral Dewey. Enormous, beautiful silvery pink, with velvety crimson markings. (14009.)

Africa. Dark amaranth, shaded black, with large, green, tinted-white center. Very distinct, odd, and conspicuous. (14008.)

A. H. Goldsmith. Large flower of great substance. Color pink, mottled and striped with dark crimson. White throat. (14007.)

Blanche. Large flowers, pure snow white, with but faint marks. (14011.)

Boston. Flaming orange scarlet, with large white throat. (14012.)

Brilliant. Beautiful orange red, with carmine and white throat. Superior to all other scarlets. (14010.)

Columbia. Light orange scarlet, freely blotched and penciled with bluish purple. Throat freely mottled. (14013.)

Daisy Leland. Enormous spike and flower. Easily the largest flower produced by any gladiolus. Bright rosy pink, of exquisite loveliness. Spike gracefully curved. (14030.)

Deborah. Dark red, tinged with amaranth. Very large, pure-white throat and blotches, white band through petals. (14015.)

Doctor Parkhurst. A spike nearly 3 feet in length and bearing upward of 25 flowers. Dark, brilliant red, with an elegantly white-mottled throat. A superb variety. (14014.)

Governor McCormack. Extra large flower and truss. Beautiful rose, mottled with silvery gray, and with violet and white mottled throat. Very fine, being of unusual beauty and oddity. (14016.)

Harlequine. White and dark crimson freely suffused, striped, mottled, and spotted. (14017.)

Helen. Blush white, striped crimson. Very delicate and pretty. (14031.)

Henry Gillman. Deep salmon scarlet, with pure-white bands, the throat showing peculiar mottling. (14032.)

Irene. Fine large flower and spike. Color a fine shade of pink, freely flaked with bright crimson. (14019.)

I. S. Hendrickson. A beautiful and irregular mottling of white and bright deep pink, in some the pink and in others the white predominating. Flowers and spikes very large and fine. (14018.)

Jay. Compact spike; large open flower of great substance. Bright crimson pink, flamed darker, throat mottled. (14020.)

Kitty Leland. Bright rosy salmon, with orange tinge. Flower spike often as much as 3 feet in length, showing between twenty and thirty blossoms, which are of the largest size. (14033.)

Little Blush. Dwarf habit, compact spike; of blush white. (14021.)

Lizzie. White, tinted blush; violet-crimson throat. (14023.)

Lowell. Fine pink and carmine, beautifully striped like *Eugene Scribe*. Good substance. (14022.)

Melrose. White flaked pink, bright crimson center. Very large and fine. (14006.)

Middleboro. Salmon pink, freely flaked and penciled with deep rose, and carmine mottled throat. (14024.)

Mrs. Beecher. Beautiful, deep rosy crimson. Large, well-opened flower, with pure white throat, freely marked and spotted. (14025.)

Nezinscott. Bright blood scarlet, with deep, velvety, crimson-black blotches and white mottlings in throat. (14026.)

Olympia. Pure white, beautifully zoned with sulphur yellow, slightly marked violet in throat. (14034.)

Gladiolus childsii—Continued.

- (1) Varieties purchased from John Lewis Childs—Continued.

Ruby. Very dark, deep ruby red, with bright violet and white mottled in throat. An exceedingly rich color. (14027.)

Variabilis. Enormous size and vigor, standing nearly 7 feet high, with the largest spike ever seen on any gladiolus. But this is not the only great merit. The flowers range in color from dull deep pink, flaked with blue black, to a solid blue-black color of smoky hue, flaked with pink. Some spikes will be one color and some the other, while flowers of both colors are often seen on the same spike. Throat mottled white. (14028.)

William Falconer. Spike of great length and flowers of enormous size. Beautiful, clear light pink. (14029.)

- (2) Varieties purchased from Kelway & Sons, Langport, England.

Chalmus. Scarlet, fire spot. (14270.)

Cowley. Red, flaked maroon, light center. (14271.)

Cylindus. Blush, center speckled yellow. (14268.)

Dolops. Orange scarlet, flaked maroon, fire-colored markings on lower petals. (14272.)

Earl Cadogan. Orange scarlet, very large. (14273.)

Gildo. Rose, white lines. (14274.)

Grenfell. Bright scarlet, fiery stripe. (14275.)

Homer. Red, large maroon spot; grand. (14276.)

J. S. Sargent. Cherry rose, with a white spot. (14269.)

Kitchener. Scarlet, yellow lines. (14277.)

Major Dickie. Scarlet crimson. (14279.)

Marchand. Crimson, white spot. (14278.)

Meteor. Rose, white center. (14280.)

Mrs. Mary Morrison. Salmon scarlet, yellow-speckled center. (14281.)

Ragged Robin. Rose, speckled center. (14282.)

Tennyson. Bright scarlet. (14283.)

Thomas Horsman. Rose, speckled center. (14284.)

Tros. Scarlet, with white lines down the petals and a white throat. (14285.)

Gladiolus cruentus.

Furnished by Dr. William Van Fleet, Little Silver, N. J. (14000.)

Corm large, globose. Produced leaves about 4, ensiform, dark, glaucous green, 1½ to 2 feet long. Stem 2 to 3 feet long. Flowers 6 to 10 in a rather dense spike; spathe-valves green, lanceolate, the lower sometimes 3 to 6 inches long. Perianth bright scarlet, with a nearly straight tube 1½ to 2 inches long, upper segments obovate spatulate, 2 to 2½ inches long; 3 lower smaller, with a large white blotch with red spots at the throat. Stamens half as long as the limb.

Gladiolus princeps (*childsii* × *cruentus*).

Purchased from Vaughan's seed store, Chicago, Ill. (12682.)

This is a direct product of the hybridization of the *G. cruentus* of the mountains of southern Africa with one of the *childsii* strain of *gandavensis* and *saundersii* hybrids. It is very distinct in growth, having heavy, dense foliage like *G. cruentus* and bears enormous, brilliant-scarlet blooms, having creamy-white markings on the lower divisions. It is the largest flowering and most vigorous variety of gladiolus yet produced, the blooms often reaching 6 or 7 inches in diameter, being very widely opened and of symmetrical circular outline. *Princeps* has succeeded in all parts of the world and promises to become a standard type of its color.—(Description by Dr. William Van Fleet.)

Gladiolus purpureo-auratus.

Furnished by Dr. William Van Fleet, Little Silver, N. J. (14001.)

Stem 3 to 4 feet, very slender; 3 to 4 short leaves, flowers 10 or more, primrose yellow, medium in size, the curved tube less than 1 inch long; segments obovate, not widely spreading, the lower ones with a purple blotch.

Gladiolus lemoinei (gandavensis × purpureo-auratus).

(Blue *lemoinei* = *gandavensis* × *papilio*.)

- (1) Varieties purchased from Vilmorin-Andrieux & Co., Paris, France.

Aphrodite. Straight spike; flowers pure white, with a few purplish-red stripes in the center. (14205.)

Arménien. Pale lilac, with a violet blotch. (14206.)

Avant-Garde. Early-flowering variety; fire-red flowers, reticulated with purplish red and white blotch. (14207.)

Baron Joseph Hulot. Large flowers of a rich violet color. Almost blue. (14208.)

Commandant Monteil. Slaty-violet; narrow blotch. (14209.)

Desdemone. Immense, well-opened flowers of ashy rose color, striped violet, large, dark-red blotch, edged with ivory white. Splendid variety. (14210.)

Eldorado. Pure yellow; blotch dark brown. Early flowering. (14211.)

Ernest Chantrier. Enormous flowers, well expanded, of a very soft rosy lilac; round blotches, currant red, bordered with straw color. (14212.)

Éthiopie. Deep violetish red, with a dark velvet blotch. (14213.)

Général de Nansouty. Very large, round, well-opened flowers, bluish violet, deep-red blotches, edged with yellow sprinklings. (14214.)

Général Faidherbe. Very large carmine-rose colored flowers, dark, purplish-red blotch, with yellow languet on the veins. (14215.)

Gil Perès. Tall spike; large, well-rounded flowers, ashy rose, with a dark amaranth-red band and a blotch of the same color. (14216.)

Henriette Renan. Compact spike of large, well-opened flowers, white slightly striped with rose color; a small scarlet blotch edged with pale yellow. The finest of the white gladioli in the *lemoinei* section. (14217.)

Héury Lévêque de Vilmorin. Tall spike, well furnished with large, well-opened flowers of salmony rose; currant-red blotch on a creamy white ground. (14218.)

Lacordaire. Very large, well-expanded flowers of a fiery vermilion self color. Early. (14219.)

Lady Howard of Walden. Clear yellow, with a brown blotch, edged sulphur yellow. Early flowering. (14220.)

Lumineux. Clear yellow flower, with a fire-red blotch. (14221.)

Madame Desbordes-Valmore. Large flowers, salmony-white, large, scarlet blotches, edged with straw color. Early. (14222.)

Madame Ferdinand Cayeux. Early-flowering variety with sulphur-yellow flowers, blotched blood-red and brown. (14223.)

Malvina. Well-shaped spike of large flowers, white, slightly suffused with lilac; striped lilac; amaranth-red blotch on a white ground. (14224.)

Mephistopheles. Cinnabar-red, blotched black and sulphur. (14225.)

Mireille. Large, well-opened flowers, white, slightly suffused with rose color on the edge of the petals; carmine-red blotch. (14226.)

Nébuleuse. Deep lilac; dark-blue blotches with a yellow band. (14227.)

President McKinley. Long spike of very large, well-shaped flowers; brownish red, with fine, dark-brown stripes. (14228.)

Princesse Altieri. Almost pure white; crimson-red blotch. (14229.)

Gladiolus lemoinei—Continued.

(1) Varieties purchased from Vilmorin-Andrieux & Co.—Continued.

- Rêve Bleu.** Well-opened flowers of a bluish lilac color with dark-violet blotch. (14230.)
- Roi de Siam.** Early-flowering variety with clear-yellow flowers, blotched brownish red. (14231.)
- Rosa Bonheur.** Conspicuous flowers; very delicate lilac; purplish-blue blotch edged with sulphur yellow. (14232.)
- Sénateur Volland.** Very large flowers, pure blue; dark-violet blotch with a yellow strain striped blue. (14233.)
- Tricolore.** Creamy rose, slightly suffused with lilac blotch; large, dark violet, edged with clear yellow. (14234.)
- Vesperus.** Compact spike of very large flowers; dark rose; violet-red blotch on a white ground. (14235.)
- Voie lactée.** White-edged lilac; dark-violet blotches edged with blue. (14236.)

(2) Varieties purchased from Kelway & Sons, Langport, England. Catalogued as Kelway's Large-Spotted or Butterfly hybrids, but placed with *lemoinei* for convenience. (See letter of Kelway & Sons, p. 6.)

- Acco.** Heliotrope, with purple spot and yellow lip. (14293.)
- Alligator.** Blue tinged, white ground, violet spot on yellow. (14294.)
- Cappa White.** White, tinted pink with a carmine spot and yellow lip; grand. (14286.)
- Cecilia.** Magenta, maroon spot on yellow. (14296.)
- Donovan.** Rosy lilac, dark spot on yellow. (14297.)
- Dragon.** Magenta, yellow center. (14299.)
- Edina.** Pink carmine on yellow. (14298.)
- Empire.** Rosy lilac, carmine blotch, yellow lips; grand. (14288.)
- Epeus.** Orange red, with a fire-colored spot on a yellow ground. (14300.)
- Fairy.** Yellow, dark spot, orange lip. (14301.)
- Gem.** Sulphur, carmine spot, yellow lip, quite a new shade. (14302.)
- Glory.** Pink, violet spot. (14303.)
- Hampden.** Yellow, dark spot. (14304.)
- Holland.** Flesh, with a carmine spot. (14305.)
- Hygeni.** Rose, flaked with red, a violet spot on the lower petals, and a yellow lip. (14306.)
- Hypatia.** Rosy purple, carmine spot and yellow stripe. (14307.)
- Jason.** Salmon, with a fire spot on the lower petals, and a yellow lip. (14308.)
- Le Pactole.** Pure yellow, dark spot. (14309.)
- Lilacina.** Lilac, violet spot, yellow lips. (14310.)
- Lilian.** Cream, dark spot, orange lip. (14311.)
- Mera.** Lilac, with a large, dark violet spot. (14295.)
- Moonbeam.** Yellow, violet spot, orange lips. (14289.)
- Oriana.** Yellow, maroon spot. (14312.)
- Paragon.** White, with a beautiful blue spot; very handsome. (14313.)
- Picus.** Rosy lilac, dark center, yellow spot. (14314.)
- Royal Tar.** Purple crimson, with a maroon spot. (14287.)
- Serpent.** Lilac, blotched carmine and yellow. (14290.)
- Squirrel.** Rose, maroon spot, yellow lips. (14291.)
- Storm.** Sulphur, dark spot, orange lip. (14315.)
- Thebas.** Flesh, shaded, violet spot. (14316.)
- Topsy.** Pink, fire spot, yellow lip. (14292.)

Gladiolus lemoinei—Continued.

- (3) Varieties purchased from Arthur Cowee, Berlin, N. Y.

Barron Staffe. Clear lilac, stained pale violet and yellow. (14083.)

Gil Blas. Early-flowering plant of dwarf habit; flowers salmony rose with a fire-red blotch on straw-colored ground. (14084.)

George Paul. Large flowers, deep crimson, slightly stained yellow, spotted with purple. (14085.)

Jane Dieulafoy. Flowers creamy white, lower petals stained maroon. (14086.)

Senateur Volland. Large flowers, pure blue, dark violet blotch with a yellow stain, striped blue. (14087.)

- (4) Varieties purchased from Haage & Schmidt, Erfurt, Germany.

Minister Von Lucius. Copper colored red, brownish purple blotches, edged violet, with large white border; four colored. (14266.)

Prince Henry. Citrine slightly tinted with chamois, large, fiery, orange-red blotch, with a blackish purple streak in the center. (14267.)

- (5) Varieties purchased from John Lewis Childs, Floral Park, N. Y.

Admiral Pierre. Large flowers, round, very open, dark carmine red, lower divisions clouded maroon purple. (14062.)

Bejazet. Lovely light pink, shading to delicate blush; velvety carmine blotches. (14063.)

Charles Martel. Rosy blush, intense large carmine blotch. (14064.)

De Cheville. Salmon red, buff blotch. (14065.)

Emille Lemoine. Bright vermilion, dotted gold. (14066.)

F. Bergman. Large, well-opened flower, orange pink, with carmine stains. (14067.)

Incendiary. Fiery red, large blotch of crimson red on lower petals, small gold markings. (14068.)

Lafayette. Very large, yellowish salmon, crimson blotches. (14069.)

Marie Lemoine. Large spike of fine, well-expanded flowers; upper divisions of a pale creamy color, flushed salmon lilac, the lower divisions spotted violet and yellow. (14070.)

Vashti. Creamy white, blotched carmine. (14071.)

- (6) Varieties purchased from V. Lemoine & Sons, Nancy, France.

Azur. Great profusion of foliage, erect flowers, violet heliotrope, two segments, entirely dark purple. (14100.)

Baron Joseph Hulot. Violet, tending toward blue. (14093.)

Belle Alliance. Delicate lilac, spotted with dark violet and sulphur. (14094.)

Bleu céleste. Round flowers of good form, deep violet, spotted purple violet; one of the finest blues. Late. (14142.)

Casque d'or. Erect stems, flowers with pointed segments; a brilliant yellow chrome, spotted with dark chestnut (maroon). (14098.)

Deuil de Carnot. Crimson maroon, very dark and velvety. (14134.)

Domino Rose. Clear cherry rose, with chestnut and straw-colored spots. (14088.)

Etoile du Nord. Spikes erect, flowers medium in size, of fine appearance, satiny violet, shaded with blue, with dark-blue spots. (14095.)

Frédéric Passy. Spikes provided with perfect flowers, clear sulphur-yellow, with fringed spots; cerise purple. Late. (14099.)

Gladiolus lemoinei—Continued.

(6) Varieties purchased from V. Lemoine & Sons—Continued.

Henri Lemoine. Flowers medium-sized, of fine form, crimped, honey-combed segments, pure-yellow chrome, with round, blush-crimson spots. This is the finest yellow gladiolus known to-day. (Early.) (14139.)

Henry L. de Vilmorin. Magnificent flowers, delicate rose salmon, spotted gooseberry; surrounded with cream color. (14135.)

Léon Duval. Straw-colored yellow, spotted orange maroon. (14091.)

Louis Lemoine. Short flower stalk, enormous and magnificent round flowers, cream-white with large round spots of a cinnabar-red orange. (14137.)

Mme. Desbordes-Valmore. Flesh color, spotted with madder. (14089.)

Mme. Millet. Cream white, becoming flesh-colored, spotted bright scarlet. (Early.) (14092.)

Monna Vanna. Medium-sized flowers, erect, yellow, straw-colored, 3 or 5 segments deeply spotted fiery red. (14138.)

Nuage. Slate-colored lilac, with violet-blue tinged spots. (14136.)

President McKinley. Well-formed, large, erect flowers, of a velvety garnet with dark-chestnut veins. (14096.)

Prince H. d'Orleans. Spikes well covered, perfect flowers, rose-scented leaves, spotted blood red, edged with clear yellow. (14097.)

Prophétesse. Cream white, maroon spotted. Very early. (14090.)

Rev. W. Wilks. Enormous flowers, nasturtium orange. (14133.)

S. Mottet. Large-winged flowers, cream sulphur, 3 segments with a large spot of scarlet orange with sulphur-yellow border. Very early. (14141.)

Velléda. Large, magnificent flowers, variegated light cream, large regular spots, clear orange red. (Early.) (14101.)

Vercingétorix. Very erect stalk, medium-sized flowers, erect and of good form, deep velvet crimson, bright, fiery throat. (14140.)

Gladiolus kelwayi.

Varieties purchased from Kelway & Sons, Langport, England.

A. F. W. Hayward. Crimson-maroon, with white lines. A grand spike. (14335.)

Agraulis. Pink, yellow center. (14351.)

Alexander Edward. Beautiful scarlet, with a light center. Very large. (14336.)

Alice Wood. Primrose-yellow, bright-orange center of surpassing beauty. (14343.)

Ambush II. Crimson-maroon. Lovely. (14337.)

Ard Patrick. Scarlet-crimson, light center. A grand flower. (14344.)

Baden-Powell. Cerise, large, white center. Grand. (14352.)

Black Meg. Maroon, white lines, very distinct. (14345.)

Captain Kelway. Mauve, with a violet spot. A fine, bold flower. (14410.)

Colossal. Crimson, carmine stripe on the lower petals. (14353.)

Coronation. White, carmine spot. Lovely. (14346.)

Countess Amy. Mauve, white center. (14354.)

Edward VII. Scarlet-crimson, light center; very large and beautiful. Perhaps the finest gladiolus in existence. (14347.)

Egeria. Lilac, yellow center. (14355.)

Eugen Sandow. A very pretty shade of salmon-rose, with a white spot on the lower petals. Each flower pip about $5\frac{1}{2}$ inches across. (14356.)

Felicite. Yellow flaked, orange center. (14357.)

Gladiolus kelwayi—Continued.

Varieties purchased from Kelway & Sons—Continued.

- General Buller.** Scarlet crimson, light center, large flower. (14358.)
Hannibal. Rose, striped carmine, violet spots. (14359.)
Ian Kelway. Beautiful, soft rosy amaranth, with a yellow spot and yellow lines. (14339.)
Langport Wonder. Flesh, violet stripe. Very large and beautiful. (14360.)
Maharajah of Kolhapur. Purple crimson, shaded plum, light center. Unique. (14348.)
Marks Barn. Rosy crimson, flaked and shaded with maroon, and striped darker. Lovely. (14340.)
Mary Anderson. Mauve, with white lines. (14338.)
Mike Lamborne. Crimson maroon, lovely shade. (14361.)
Miss Wade. White, flushed with pink, violet stripe. A grand flower. (14362.)
Morris Dancer. Crimson, flaked with the same tint, and with a carmine stripe. Long, bold spike. (14412.)
Mr. Chamberlain. Salmon scarlet, yellow center. A fine, bold flower. (14349.)
Mrs. H. Cornwallis West. Mauve, white spot; very attractive. (14350.)
Nilus. Mauve, pure white center. (14363.)
Peter Drummond. Crimson maroon; very rich and handsome. (14364.)
Prince Henry of York. Scarlet, very bright. (14365.)
Richard Milner. A very unique flower; pale yellow; very beautiful. (14366.)
Rock Sand. Glowing crimson, with a fire-colored stripe. A grand shade. (14341.)
Shahzada. Purple crimson, with a small white line down the center of the petals. (14367.)
Simony. Purple, flaked with carmine, and with a carmine stripe; very attractive. (14342.)
Sir H. D. Wolff. Scarlet, with a white throat. (14368.)
Vigilant. A beautiful dark purple, shaded maroon. (14369.)
Wellinton. Maroon, shaded darker, dark spot. (14370.)

Gladiolus nanceianus (saundersii × lemoinei).

(1) Varieties purchased from V. Lemoine & Sons, Nancy, France.

- Abbé Roucourt.** English, red crimson, red dotted. (14114.)
Amiral Makharoff. Immense flowers, round, perfect, brilliant carmine, spotted throat and dotted crimson and cream. (14151.)
Capitaine Sverdrup. Medium-sized flowers, a mauve ground streaked with violet, inferior segments of sulphur yellow, speckled with purple and edged with violet. (14123.)
Charles Sellier. Very erect stems, large flowers, erect, fiery-red cinnabar, inferior segments, veined and shaded purple, upon a white-rose ground. (14126.)
Colonel Klobb. Spotted aniline (indigo), purple, and cream. (14115.)
Edouard André. Chocolate, dotted maroon and white. Early. (14146.)
Ernest Charbonnier. Enormous flowers, salmon color, large spots of crimson maroon, speckled white. (14150.)
Ferdinand Kegeljan. Orange, dotted straw color. (14144.)

Gladiolus nanceianus—Continued.

(1) Varieties purchased from V. Lemoine & Sons—Continued.

- Feyen-Perrin.** Enormous, perfect flowers, with round spots light strawberry, with a line of cream in center. (14127.)
- General Borgnis-Desbordes.** China rose (carmine), inferior spotted segments of crimson. (14117.)
- General Frey.** Velvety red crimson. Early. (14118.)
- General Stoessel.** Spikes well shaped, large flowers, copper rose, spotted throat and dotted bright cherry. (14152.)
- Henri Vauthier.** Amaranth sanded with purple on a white ground. (14147.)
- James H. Veitch.** Bright red, straw-colored throat. Late. (14112.)
- John Farquhar.** Tall, erect stems, numerous flowers with long wings, veined rose carmine, large, yellow, straw-colored spots, and speckled with cherry purple. Late. (14148.)
- Julien Gérardin.** Rose lake, spotted with carmine and straw color. Early. (14143.)
- Massena.** Rose-red, spotted with cream, a speckled throat. (14110.)
- Ministre Pichon.** Brilliant carmine, inferior segments, ornamented with a white spot, dotted with crimson veins and lines. (14119.)
- Pacha.** Nasturtium orange, speckled-red center, on a sulphur-colored ground. (14113.)
- Paul Crampel.** Spikes solid and well ornamented, enormous flowers, spotted with rose lake, shading into a deep ruby. (14124.)
- Paul Labbé.** Very large, solid spikes, slate colored, one or two segments spotted red, on a straw-colored ground. (14125.)
- Port-Arthur.** Magnificent flowers of large size, magenta rose, spotted throat, speckled cherry, edged with cream. (14153.)
- Président Braun.** Bright orange with light-salmon spots or spotted with light salmon. Derived from the variety *Raphaël Collin*. (14120.)
- Président Viger.** A vivid madder with sulphur spots, surrounded with a shading of the same color. (14121.)
- Professeur Bazin.** Large salmon-colored flowers, mottled and striated maroon, dots of red, maroon, and cream. (14122.)
- Richesse.** Leaves rose-colored. Purple and yellow spots. (14116.)
- Sir Trevor Lawrence.** Scarlet madder, dotted with flame color. (14111.)
- Souwaroff.** Enormous flowers, large, round segments, salmon mottled purple, spotted red throat, on a cream ground. (14154.)
- Tsarine.** Lilac rose, spotted carmine and white. Early. (14145.)
- Vereschagine.** Beautiful flowers, velvety cherry, two segments crimson velvety, speckled with cream, the middle segment cream. (14155.)

(2) Varieties purchased from Vilmorin-Andrieux & Co., Paris, France.

- Alsace-Lorraine.** Carmine-red flower, with round, straw-colored blotches, penciled blood red at the basis of the sepals. (14237.)
- Amaryllis.** Large, well-expanded flowers, bright carmine red; white blotch profusely spotted with garnet red. (14238.)
- Antoinette Thiry.** Salmon color, penciled with carmine red and straw color. Very fresh shade. (14239.)
- Brahma.** Large, well-opened flower of a fine carmine red, slightly glazed with ashy gray; the two lower divisions are almost covered with a large, pure-white blotch. (14240.)

Gladiolus nanceianus—Continued.

(2) Varieties purchased from Vilmorin-Andrieux & Co.—Continued.

Canrobert. Round, well-opened flower, bright scarlet, the lower petals dotted with white. (14241.)

Colosse. Well-furnished spike; very large, well-expanded flowers, salmony rose edged and suffused with lilac; small white blotch sprinkled with rose color. (14242.)

Edouard André. Large, well-rounded flowers, violetish red, blotches penciled with brown on a white ground. (14243.)

G. A. Kuyk. Glazed carmine red, blotched and penciled purple on a white ground. (14244.)

Général Gallieni. Crimson red, penciled golden yellow. (14245.)

Général Kouroupatkine. (Souchet.) (New.) Well-furnished spike; well-expanded flowers of a very dark velvety crimson red; almost a self. (14246.)

Gustave Grünerwald. Early-flowering plant, with vermilion-red flowers, penciled with straw color. (14247.)

Henri Vauthier. Handsome flower, amaranth red, penciled with purplish red on a white ground. (14248.)

Iris. (Ragot.) (New.) Flowers of a very curious slaty-blue color, slightly flamed with red; small white blotch, spotted with carmine red. (14249.)

John Farquhar. Numerous flowers, carmine rosy, blotch clear yellow, penciled with cherry red. Late-flowering variety. (14250.)

Maréchal Fabert. Large flower, satiny rose, marbled carmine red; the lower petals penciled raspberry red on a straw-colored ground. Early-flowering variety. (14251.)

Maxime Cornu. Splendid rosy carmine sprinkled with scarlet; the lower petals penciled with currant red on a straw-colored ground. Early. (14252.)

Ministre Pichon. Flower bright carmine red; the lower petals bear a white stain, penciled and striped with crimson. (14253.)

Orfila. Ruby red, blotched and striped with crimson. (14254.)

Pacha. Orange red; center striped with red, on a sulphur-yellow ground. (14255.)

Reine des Belges. Dwarf, early-flowering variety; large flower pure white; three petals are veined and penciled with carmine red. (14256.)

Surprise. Pale-bluish lilac; center of the petals yellow; throat slightly penciled with purplish red. (14257.)

Tsarine. Large, erect flowers, rosy lilac, striped with deep rose; carmine-red blotch, edged white. Early. (14258.)

Tsigane. Dwarf plant. Flower of a very strange slate-violet color, suffused with grizzly blue. White throat. (14259.)

Gladiolus dracocephalus.

(1) Varieties purchased from V. Lemoine & Sons, Nancy, France.

Chéret. Bright cherry, throat and inferior segments entirely spotted crimson on a yellow ground. Early. (14102.)

Forain. Flowers like a Cossack, long segments, crimson throat of purple velvet, 3 with yellow-golden spots. Early. (14103.)

Louis Français. Throat and center entirely chrome yellow, shaded with purple, edged with magenta purple. (Early.) (14104.)

Michel-Ange. Fine flower stalk, cinnabar-red flowers, sulphur-yellow spots edged with maroon purple. (14107.)

Gladiolus dracocephalus—Continued.

- (1) Varieties purchased from V. Lemoine & Sons—Continued.

Rabelais. Large flowers, crimson maroon, clear yellow, in center of all segments. (14109.)

Radiant. Large flowers, veined red grenadine, inferior segments, sulphur yellow, covered with purple hieroglyphics. (14105.)

Sémaphore. Dark-red flowers, 2 bronze-maroon segments, tips golden yellow. (14106.)

Velasquez. Red vermilion, dark-maroon throat, edged with golden yellow. (Early.) (14108.)

- (2) Variety furnished by Dr. William Van Fleet, Little Silver, N. J.

Stem stout, 2 feet or less; green, the tube (2 inches or less long) curved; upper segments elliptic-obovate and more or less hooded, yellowish and closely striate with purple, the other segments much smaller and reflexing, mostly green and purple spotted. (14002.)

Gladiolus leichtlini.

Furnished by Dr. William Van Fleet, Little Silver, N. J.

Stem about two feet tall, terete; leaves about four, one foot long; flowers 6-8, large with a curved tube $1\frac{1}{4}$ inches long, crimson and yellow; upper segments obovate and connivent, 3 lower ones much smaller and acute, spreading, red at tip, but yellow and minutely red dotted below. (14005.)

Early gladioli.

Varieties purchased from V. Lemoine & Sons, Nancy, France.

Eclaireur. Height, $23\frac{1}{2}$ inches, stems erect, flowers perfectly erect, carmine ground, large golden-yellow spots on 3 segments and often on all, throat covered with fine purple dots; blooms as early as July 1. (14128.)

Gladiolus colvilloïdes. This hybrid was produced from the crossing of a variety of *G. lemoinei* with *G. angustus*, a form near *G. tristis*; gives one the idea of a *G. colvillei* with its yellow flowers. The leaves are long, narrow; predominant nerves; the flower stalks are slender, erect, bearing pretty, medium-sized flowers, a pure chrome, with three small, dark, triangular spots. The efflorescence (time of flowering) is normal, taking place the first fortnight in July, but if the bulbs are planted in the autumn and wintered under a frame they will flower the same time as *G. colvillei*. (14132.)

Messenger. Rather a low plant, very upright stems, flowers present in front of a clear, dark-vermilion appearance, large, round, red spots, edged with a dotted yellow spot. (14129.)

Pléiade. A low plant, round flowers, erect, small, orange-brown spots dotted through a large yellow spot. (14130.)

Précocité. Stems tall, straight; flowers well erect, clear red, lead color, throat golden yellow, finely dotted with red. The earliest of all (June 20). (14131.)

July large-flowering gladioli.

Varieties purchased from Kelway & Sons, Langport, England.

Christine Margaret Kelway. Flesh flaked with carmine and with a creamy yellow blotch; handsome spike. (14408.)

Corrodus. Salmon scarlet, white center, large. (14319.)

Eurypon. Bright red, fire spot, yellow lip. (14320.)

July large-flowering gladioli—Continued.

Varieties purchased from Kelway & Sons—Continued.

- Gerald.** Crimson, maroon blotch. (14321.)
Hall Caine. Yellow, fire spot. (14322.)
J. G. Clarke. Salmon, yellow spot; splendid variety, each flower 6 inches across. (14411.)
Juno. Scarlet, lighter center. (14317.)
Kipling. Rose, dark spot; beautiful. (14323.)
Libanius. Crimson, yellow-speckled center; grand. (14409.)
Lollianus. Rose, large, white center; beautiful. (14324.)
Lord Curzon. Cerise, yellow center. (14325.)
Marguerite Troil. Mauve, dark spot, yellow lips. (14326.)
Mrs. G. W. Willock. Flesh flaked carmine, yellow, handsome spike. (14327.)
Mytilene. Crimson, center speckled white; very beautiful. (14318.)
Persimmon. Blue, white lines. (14328.)
Picciola. Scarlet, yellow center. (14329.)
Ruteni. Salmon, yellow center; lovely. (14330.)
Sorex. Red, violet spot, yellow lip. (14331.)
Sunshine. Bright scarlet, white spot; very beautiful. (14332.)
Theodota. Brick red, light center, carmine stripe; splendid. (14333.)
Veranius. Large red, white center; grand. (14334.)